

GBT Systems Report on Project Coordination for November 1999
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COMSAT is still disassembling the S70 derrick. Since COMSAT personnel who disassemble the derrick will also test actuator cables, cable testing and outfitting of the actuator control room will be further delayed, again.

The need for the walkways on the GBT backup structure was reviewed again. The walkways are believed to be inherently safe, but will require routine inspection and proper maintenance. Having the walkways on the telescope will help NRAO maintenance staff replace actuators, inspect the structure, and inspect/replace actuator cables.

Repeater antennas for the new GBT radio communications system were installed on November 5. The repeaters comply with NRQZ power density limits. The radio system became operational on November 11. Operations and maintenance personnel are evaluating the system to see if it provides the radio coverage they need.

A pointing/metrology integration meeting was held on November 10. Rangefinder measurements of the GBT feedarm on October 15 revealed two modes of oscillation. The modes occurred at the frequencies (0.7 and 0.9 Hz) and in the directions predicted by structural analysis. The frequencies of the oscillations were also verified by an independent measurement with accelerometers. The rangefinder data showed rms residuals of 10 microns, about an order of magnitude better than anticipated. The "phase-closure" experiment (point-to-point measurements) with the ground rangefinders was reviewed. The data fit the two dimensional geometry of the rangefinders at about the noise level of the data, thereby proving phase closure. The experiment is scheduled to be repeated in December 1999 using 12, instead of nine, rangefinders.

A GBT Coordination meeting was held on November 16. The purchase of prioritized spare parts is well underway. Revisions to the GBT Site drawing were reviewed. The revisions include the relocation of the site road, the addition of a dirt road and fence around the perimeter of the ground laser rangefinders, the removal of the local control building, and the addition of a variety of cables, including optical fiber, 4160V power lines, and telephone lines. The drawing should be further modified to show parking lots, truck turn-around points, and septic lines (There is a concern for settling of the rangefinder monuments).

An end-to-end test of GBT software was scheduled for December 1. The software that will be evaluated during the test includes the monitor and control software, the operator/engineer interface, the observer's interface, and the commissioning tools in AIPS++. During the test, an all sky pointing observation will be simulated with an antenna simulator. The hardware that will be used during the test includes the Ku-band receiver, IF electronics, and the DCR.

Dennis Egan designed a feed support/seal for the C-band receiver. The feed support is being fabricated in the shop.

At the request of COMSAT, Tim Weadon is proceeding with a two week trial period of setting panel corners with the corner setting tool.